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REVIEW

Flore des mousses de la Suisse¹

We learn from the general preface that the present work was begun in 1884, completed ten years later and that for a long time no publisher could be found. Even when M. Barbey secured publication through the Boissier Herbarium, the printing was greatly hindered and finally interrupted through causes beyond control, so that it was not possible really to undertake active work until 1911, by which time the progress of science had made great revision necessary. We feel that these circumstances should be kept in mind in judging the book: they explain the cases of disagreement between the two parts, the omissions from the keys and indexes, the presence of two sets of keys for *Sphagnum*, and the unusually large amount of material that has been put in the Supplement and Addendum—(some thirty-five pages, in part separately paged, both before and after the plates). No one is, probably, more conscious of such defects than the authors, and such things, while rendering the use of the book less convenient, do not diminish the very great value of the painstaking records of facts regarding the species mentioned. We most sincerely congratulate the authors upon the book, finished in spite of discouragement. We wish most sincerely that a similar volume were available for our own flora.

At the outset it should be stated that the flora is much more than a set of keys and a list of the Swiss mosses. Nearly all European species are mentioned, or noted, even those like *Schistidium maritimum*, or *Myurium hebridarum* which are not in the least likely to be found in Switzerland.

An introductory essay of some twenty pages deals with the methods of microscopic study and the structure of the mosses. Though much is well-trodden ground, there are several very interesting suggestions; such as the use of polarized light for studying peristome structure, the use of the number of cells per square millimeter (see discussion at end of Part II) as a unit of comparison for the size of areolation, and the careful directions for the preparation and preservation of microscopic dissections. As a medium for temporary mounts a mixture of equal weights of pure carbolic acid, lactic acid, and water with twice the weight of glycerine is recommended, on account of its high refractive index (it is almost that of optical crown glass), its slow evaporation, and the absence of the distortion of tissues which is produced by pure glycerine. A similar preparation containing gelatine is recommended in place of the customary glycerine jelly. The advice "Pour les commencants" is especially good. We quote, in abstract: "Examine collections when fresh. Note on the spot such

¹ Flore des mousses de la Suisse.

Première partie: Tableaux synoptiques pour la détermination des mousses, par Jules Amann et Charles Meylan. Pp. 1-215. Lausanne, 1912.

Deuxième partie: Bryogéographie de la Suisse; Catalogue des mousses suisses, avec douze planches, par Jules Amann en collaboration avec Paul Culmann et Charles Meylan. Pp. 1-414 + 1-4 with 86 figures in 12 plates. Lausanne, 1912.

[Though the inner title pages are dated as above and the prefaces are dated February and March 1912, respectively, the cover page bears the imprint, "Publication de l'herbier Boissier. Genève, 1918." The two portions are separately paged and indexed.]

characters as the curving of the seta, the calyptra, the inflorescence. The detailed study of a small district will furnish better results than long trips into a far country. Don't neglect common species and their forms; the object of study is not to discover rarities but to observe the association of species and their relations to climatic, topographic and geologic conditions. There is far more interest when the aim of moss-study is placed above mere chasing after rarities."

M. Amann informs us that the keys are based largely on those characters which years of field study have shown to be most reliable, without neglecting those fundamental differences emphasized in the classic European works. By an ingenious system of abbreviations and formulae, most of them readily suggesting the proper term, it is possible to give a condensed description of the salient features of each species at the appropriate place in the key. In nearly all cases all species of one genus or group are on one page. This constant necessity of verifying a group of characters instead of a single item, should materially prevent the beginner (or older student) from thinking that moss species are distinct entities that can be separated by the presence or absence of single characters. The format of the key is the "box," as printers say, each group of characters being in a separate enclosure; the more general placed vertically at the right, the specific ones horizontally at the left, with the species-names near the margin.

The Catalogue is no mere list. Descriptive or critical notes occur for the majority of species, and in many cases there are supplementary keys. In *Bryum*, *Brachythecium*, *Dicranum*, and some other genera there is practically a synopsis of the European species. For each Swiss species there is a reference to exsiccata, the vertical and horizontal distribution, the facts of relation to light, moisture, substratum, climate, geological formation, and frequently notes upon the association with other species. The book is a mine of information. For all less common species there is detailed citation of actual specimens seen. The species are classified as primary, secondary, and tertiary in rank, with the addition of varieties, races, and forms in addition. Especially worthy of mention are the notes on *Campylopus Schimperii*, *Orthotrichum callistomum* (of which M. Culmann has found a second specimen as well as having had the opportunity of examining the original collection), and the keys to *Schistidium*, the bulbiferous *Pohliae*, and the *Barbulae rurales*.

The plates deal mainly with new species or varieties described in the volume, and give in general only diagnostic details. They are clear and sharp, each figure being accompanied by a line showing actual scale measurement. This is certainly a great advantage over the usual method of giving mere magnification.

In the matter of the authorities for binomials, we wish that the authors had more closely followed the prevailing modes of citation. This point seems to us a serious defect in the whole work, and one that is bound to make much additional labor for others. Only the so-called parenthetical authority for the specific name is cited, all authority for the binomial combination being omitted, if it is other than that for the specific name. The new species and other forms proposed are clearly indicated as new, but in the case of the new genera or revival of old genera, there is no indication of the proper authority

for the combination. Such an omission means long searching of literature in order to find out whether the combination be "new" or not. The general absence of synonyms is of little importance in the main, especially for those having access to standard works, but we feel sure that in all cases the binomial authority would have greatly facilitated reference to these other books.

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NOTES ON CURRENT BRYOLOGICAL LITERATURE

A. LEROY ANDREWS, Bryological Notes. V.—*Scapania nimbosa* from Norway. *Torrey* **19**: 49–51. (1919).—*Scapania nimbosa* Tayl. has previously been known only from the western coasts of the British Isles. It is one of the so called "Atlantic species" which seem to be relicts from an older flora. In 1907 Dr Andrews and Herr B. Kaalaas discovered the species in the Tverfjeldene in Romsdalt, Norway, although at the time the material was determined and reported as *Scapania planifolia* (Hook.) Dum.

EDO CLAASSEN, Mosses of several Ohio counties. *Ohio Journ. Sci.* **19**: 362–366. (1919).—Mr. Claassen lists 5 *Sphagna* besides 72 acrocarpous and 79 pleurocarpous mosses from certain counties, mostly in northern Ohio. The only notes given refer to the substratum and, by abbreviation, to the counties in which collection was made without more definite locality. Several of the species reported seem additions to the list given by Kellerman and Werner in the Catalogue of Ohio Plants issued in 1895. It seems a pity that more careful proof reading could not have obviated the errors in the spelling of specific names.

ALEXANDER W. EVANS, A taxonomic study of *Dumortiera*. *Bull. Torrey Club* **46**: 167–182. (1919).—Dr. Evans gives an outline of the history of the genus and of the species belonging to it, with a citation of 26 titles in a bibliography. A much more extended discussion is given of the morphology and of the characters of systematic value in limiting the species. Two species are recognized: *D. hirsuta* (Sw.) Nees (including *D. irrigua* Nees) which ranges, in the United States, from Pennsylvania and Missouri southward; and *D. nepalensis* (Tayl.) Nees (including *D. velutina* Schiffn. and *D. calcicola* Campb.) which has been reported in the United States only from Georgia and Florida, though widely distributed in the West Indies, northern South America and the far East.

A. LUISIER, Les Mousses de Madère. *Broteria* **17**: 28–48. (Ap. 1919). A continuation of the articles upon the mosses of Madera which have been previously noticed in *THE BRYOLOGIST*. The present instalment covers the species from *Cinclidotus* to *Amphidium*. Extensive notes are given for *Cinclidotus chloronotus* (Bruch.) Limpr., *Tortula Solmsii* (Schimp.) Limpr., *T. perlimbata* Geh., *T. marginata* (Bry. Eur.) Spruce, *Anoetangium angustifolium* Mitt., and *A. curvipes* (C. M.) Jaeg. Apparently, two new combinations are made in *Grimmia*.

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